

**Listing of Claims:**

**Claim 1 (Currently Amended)** An isolated mammalian A polypeptide having the biological enzyme activity of a histidine protein phosphatase which has a high specificity for phosphohistidine specifically dephosphorylates phosphohistidine and has a molecular weight of 13,000-15,000, obtainable by purification from mammalian tissue by at least one anion exchange chromatography, one gel filtration and one affinity chromatograph step 13,000-15,000 Da as determined by SDS electrophoresis.

**Claim 2 (Currently Amended)** An isolated A polypeptide according to claim 1 comprising at least the amino acid sequence motif DCECLGGGRISHQSQD (SEQ ID NO:3)

**Claim 3 (Currently Amended)** An isolated A polypeptide according to claim 1 comprising at least the amino acid sequence motif DCECLGGGRISHQSQDX<sup>1</sup>KIHVYGYSMX<sup>2</sup>YGX<sup>3</sup>AQH (SEQ ID NO:4) wherein X<sup>1</sup> = K or R, X<sup>2</sup> = A or G and X<sup>3</sup> = P or R.

**Claim 4 (Currently Amended)** An isolated A polypeptide according to claim 1 comprising at least the amino acid sequence motif YHADIYDKVSGDMQKQGCDCECLGGGRISHQSQDKIHVYGYSM (SEQ ID NO:5).

**Claim 5 (Currently Amended)** An isolated mammalian A polypeptide having the biological enzyme activity of a histidine protein phosphatase which has a high specificity for phosphohistidine and a molecular weight of 13,000-15,000 specifically dephosphorylates phosphohistidine and has a molecular weight of 13,000-15,000 Da as determined by SDS

electrophoresis, comprising the following amino acid sequence:

(M) AVADLALIPDVDIDSDGVFKYVLIRVHSAPRSGAPAAESKEIVRGYKWAIEYH  
ADIYDKVSGDMQKQGCDCCLGGGRISHQSQDKKIHVYGYSMAYGPAQHAISTEK  
IKAKYPDYEVTWANDGY (SEQ ID NO:2).

**Claim 6 (Currently Amended)** An isolated A polypeptide having the biological enzyme activity of a histidine protein phosphatase which has a high specificity for specifically dephosphorylates phosphohistidine and has a molecular weight of 13,000-15,000. Da as determined by SDS electrophoresis, the amino acid sequence of which has a homology of 64-99% compared with the amino acid sequence of claim 5 depicted in claim 3.

**Claim 7 (Currently Amended)** An isolated A polypeptide according to claim 6 comprising the following amino acid sequence:  
AAAGLAQIPDVDIDSDGVFKYVLIRVHAAPPSEAPGGESKDIVRGYKWAIEYHADI  
YDKVSGELQKKGHDCECLGGGRISHQSQDRKIHVYGYSMGYGRAQHSVSTEKIRA  
KYPDYEVTWADDGY (SEQ ID NO:6).

**Claim 8 (Currently Amended)** A DNA coding for a polypeptide of claim 1.

**Claim 9 (Currently Amended)** A method of claim 19, where said cDNA comprises DNA according to claim 8 comprising the nucleotide sequence:

(ATG) GCGGTGGCGGACCTCGCTCTCATTCTGATGTGGACATCGACTCCGACGG  
CGTCTTCAAGTATGTGCTGATCCGAGTCCACTCGGCTCCCCCGCTCCGGGGCTCCG  
GCTGCAGAGAGCAAGGAGATCGTGC GCGGCTACAAGTGGGCTGAGTACCATGCGG  
ACATCTACGACAAAGTGTCGGGCGACATGCAGAAGCAAGGCTGCGACTGTGAGTG  
TCTGGGCGGCGGGCGCATCTCCACACAGAGTCAGGACAAGAAGATTACGTGTAC

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Amdt. dated September 30, 2003  
Reply to Office Action of, June 30, 2003

GGCTATTCCATGGCCTATGGTCCTGCCCAGCACGCCATTCAACTGAGAAAATCA  
AAGCCAAGTACCCCGACTACGAGGTACCTGGGCTAACGACGGCTAC (SEQ ID  
NO:1).

**Claim 10** (Currently Amended) Pharmaceutical preparation comprising a polypeptide according to claim 1, where appropriate, together with suitable excipients, carriers and other active ingredients.

**Claim 11** (Currently Amended) An antibody directed to a polypeptide according to claim 1.

**Claim 12** (New) An isolated polypeptide of claim 1, which is purified from mammalian tissues using at least one step of anion exchange chromatography, gel filtration, and affinity chromatography.

**Claim 13** (New) An isolated polypeptide comprising, an amino acid sequence for a human histidine protein phosphatase.

**Claim 14** (New) An isolated polypeptide of claim 13 comprising, an amino acid sequence for a human histidine protein phosphatase as set forth in SEQ ID NO: 2.

**Claim 15** (New) An isolated nucleic acid comprising a nucleotide sequence coding for a human histidine protein phosphatase of claim 13.

**Claim 16** (New) An isolated nucleic acid of claim 15 comprising a nucleotide sequence coding for a human histidine protein phosphatase as set forth in SEQ ID NO: 2.

**Claim 17 (New)** An isolated nucleic acid of claim 16, wherein the nucleotide sequence coding for a human histidine protein phosphatase is SEQ ID NO: 1.

**Claim 18 (New)** A method of producing a recombinant mammalian histidine protein phosphatase, comprising:  
expressing a cDNA coding for a mammalian histidine protein phosphatase in a cell to produce recombinant mammalian histidine protein phosphatase, and  
isolating said recombinant mammalian histidine protein phosphatase.

**Claim 19 (New)** A method of producing a recombinant human histidine protein phosphatase, comprising:  
expressing a cDNA coding for a human histidine protein phosphatase in a cell to produce recombinant human histidine protein phosphatase, and  
isolating said recombinant human histidine protein phosphatase.

**Claim 20 (New)** A method of claim 19, wherein said human histidine protein phosphatase has the amino acid sequence set forth in SEQ ID NO. 2.

**Claim 21 (New)** An antibody directed to a polypeptide of claim 13.

**Claim 22 (New)** An antibody directed to a polypeptide of claim 14.